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10/533,006	04/28/2005	Hideki Moriyama	BAN-05-1097	1709

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EXAMINER

LISTVOYB, GREGORY

ART UNIT	PAPER NUMBER
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1796

MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/533,006

Applicant(s)

MORIYAMA ET AL.

Examiner

Gregory Listvoyb

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claim 1 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A newly added limitation "R2: any group, represented by the following formulae" is indefinite. It is not clear which formulae R2 relates to. The same issue can be addressed to R9 and R15.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 10-22, 36, 38-39, 41, 42 rejected under 35 U.S.C. 102(b) as being anticipated by Harris et al (US Patent 5580950), herein Harris.

Harris discloses a polyamide, applied as an optical member in LCD displays. The structural formulas (I), (II), (III) and (IV) (Columns 5 and 6), meet the limitations of Claims 1.

Since the above structure identical to one in the Application's Specification, it meet the requirements on Light transmittance, Young Modulus and thermal shrinkage of Claims 1, 2, 3, 10, 12- 15, 25- 28, 35- 39 .

Claims 1-3, 10-15, 22, 36, 38-39 rejected under 35 U.S.C. 102(b) as being anticipated by Murakami et al (US Patent 7054049), herein Murakami.

Murakami teaches a transparent optical film for LCD display that has excellent optical characteristics for realizing the uniform retardation distribution (Abstract).

Murakami discloses a polyamide structure, which meets the limitations of Claims 1 , 22, 37 (Column 13, Formula 22 and 23).

Most preferable film thickness is within the range of 5 to 150 microns (Column 20, line 50), meeting the limitations of Claims 11 and 24

The retardation value of the film is within the range -90 nm to 75 nm, meeting the limitations of Claims 17-18.

Since the above structure identical to one in the Application's Specification, it inherently meets the requirements on Light transmittance, Young Modulus and thermal shrinkage of Claims 2, 3, 10, 12- 15, 25- 28, 36, 38- 39.

Claims 1, 9, 11-14, 20-22 rejected under 35 U.S.C. 102(b) as being anticipated by Handa et al (US Patent 6589663), herein Handa.

Regarding Claims 6, 9-14, 17-18, 20-21 Handa discloses an aromatic polyamide film, structure of which meets the limitations of Claim 6 and 9, having Young modulus within 6000 –40000 N/mm² (6 -40 Gpa) (Column 21, Claim 5) , thickness of 4-6 microns (Column 21, Table 3) and surface roughness (light retardation) within 0.5-25 (Column 21, Claim 4).

Regarding Claims 20 and 21 Handa discloses the birefringence values for a biaxially oriented film. He expresses birefringence as a Plane orientation coefficient equal to average of birefringence in Machine and Tangential directions (MD and TD). (Column 13, line 30). Planar orientation coefficient varies from 0.11 to 0.6 (Table 3 and Claim 4, Column 21). In examiner's opinion, birefringence in both directions is not equal, since the film is oriented unequally in MD and TD directions. Therefore, for Comparative example 4 (Table 3), which have planar orientation coefficient of 0.11,

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birefringence in TD direction is less than 0.1. Therefore, limitations of Claims 20 and 21 are met.

Claims 1, 7- 9, 22 rejected under 35 U.S.C. 102(b) as being anticipated by Elfert et al (US Patent 4217227), herein Elfert.

Elfert discloses a copolyamide films with variety of structures, meeting the limitations of Claim 1 (see Column 6, line 30).

Regarding Claim 7, Elfert teaches copolyamide, comprising structures I and IV, whereas both components can be present at the ratio between 10 to 90 mol %, preferably 15 to 50 mol%. (Columns 2 and 3, structures I and IV, Claim 1).

Regarding Claim 8, Elfert teaches copolyamide, comprising structures I and IV, whereas both components can be present at the ratio between 10 to 90 mol %, preferably 15 to 50 mol%. (Columns 2 and 3, structures I and II, Claim 1).

Regarding Claim 9, Elfert teaches copolyamide, comprising structures II and IV, whereas both components can be present at the ratio between 10 to 90 mol %, preferably 15 to 50 mol%. (Columns 2 and 3, structures I and II, Claim 1).

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Claims 1, 7, 9, 14 rejected under 35 U.S.C. 102(b) as being anticipated by Tsukuda et al (US Patent 6274220), herein Tsukuda.

Tsukuda teaches copolyamides with Young Modulus of 9.8 GPa and above (Column 4, line 20), having structures, meeting the limitations of Claims 7 and 9 (Columns 8 and 9, Example 1).

Claims 1-3, 10-15, 22, 36, 38-39 rejected under 35 U.S.C. 102(e) as being anticipated by Yamaoka et al (US Publication 2004/0100599), herein Yamaoka.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Yamaoka teaches a method for producing a polyamide, applied as an optical member in LCD displays. Structure 22 and preferred structure 23 meet the limitations of Claims 1, 22, 37.

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Since the above structure identical to one in the Application's Specification, it meets the requirements on Light transmittance, Young Modulus and thermal shrinkage of Claims 2, 3, 10, 12- 15, 36-39 .

Thickness of polyamide layer is within the range of 11 to 30 microns, meeting the limitations of Claims 11 and 24.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 22, 45-46 rejected under 35 U.S.C. 103(a) as being unpatentable over Harris in combination with Vargo et al (US patent 6232386) herein Vargo.

Harris discloses a polyamide, applied as an optical member in LCD displays. The structural formulas (I), (II), (III) and (IV) (Columns 5 and 6), meet the limitations of Claims 1 and 47.

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Harris does not disclose the use of his polyamide as part of solar batteries, optical fibers and optical waveguides.

Vargo teaches polymer composites used as an optical element in (Column 15, line 5). He discloses the use of his polymer in non-linear optical devices, which can be considered lens. The above compositions include polyamides.

It would have been obvious to a person of ordinary skills in the art to use Harris's polymer as an optical element in above applications, since the polyamide possesses required optical characteristics.

Response to Arguments

Applicant's arguments filed on 8/24/2007 have been fully considered but they are not persuasive.

Regarding Harris Applicants stated that "the differences between the subject matter of the above- mentioned rejected claims with respect to Harris by removing biphenyl groups in conjunction with the Applicants' R2, R9 and R15 moieties".

A newly added limitation of Claim 1 claims "R2: any group, represented by the following formulae" is indefinite. It is not clear which formulae R2 relates to. The same issue can be addressed to R9 and R15.

The same issue applicable to the Applicant's arguments regarding Yamaoka and Murakami.

Regarding Elfert reference, Applicant stated that Elfert is directed to meta oriented polyamides. This is incorrect. Elfert discloses polyamides, which can be ortho, para and meta oriented (see Column 3, line 10).

In reference to Tsukuda, Applicant stated that Tsukuda's material is not transparent, since Tsukuda uses colored 2-chloro- 1,4-phenylenediamine. The fact that Tsukuda's material is colored does not prevent it being transparent. In addition, Tsukuda discloses wide variety of raw materials (see Column 6, line 50), which may include Chlorine substitute. The Examiner relies on the full disclosure of Tsukuda.

Nemoto, Hitoshi and Hawa references are withdrawn, which necessitated by the Amendments of the Claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory Listvoyb whose telephone number is (571) 272-6105. The examiner can normally be reached on 10am-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gregory Listvoyb
Examiner
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GL


RABON SERGENT
PRIMARY EXAMINER